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EXAMINER	
MAIS, MARK A	
ART UNIT	**PAPER NUMBER**
2664	

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/740,932	PEGRUM ET AL.	
	Examiner	Art Unit	
	Mark A. Mais	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34,36-46,54-66 and 74-85* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34,36-46,54-66 and 74-85* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-34, 36-46, 54-66, and 74-85 are rejected under 35 U.S.C. 102(e) as being anticipated by Ambe et al. (US Patent Application 2002/0196796).

3. With respect to claim 1, Ambe et al. discloses a method of conveying data traffic through a node communications network **[Fig. 2, Network switch-on-chip (SOC) 10, Ethernet Port Interface Controller (EPIC) 20]** comprising the steps of:

assigning a parameter **[8 bytes of control information are added to the 64 bytes of cell byte data, page 8, paragraph 0118; *see also* Fig. 11; for example, the Cell Packet Identification (CPID) is provided to the egress manager 76, page 8, paragraph 0119]** respecting the data traffic in an ingress interface **[Fig. 8, ingress submodule 14a]**;

conveying the data traffic and the respective parameter to an egress interface *having a respective plurality of logical egress network ports* **[Fig. 2, interpreted by examiner as the combination of the PMMU 70 and egress submodule 16a where PMMU 70 comprises CBM**

71 and egress managers (EgM) 76, page 8, paragraph 0117; EPIC 20 supports at least 8 ports, page 4, paragraph 0048]; and

in the egress interface **[Fig. 2, interpreted by examiner as the combination of the PMMU 70 and egress submodule 16a where PMMU 70 comprises CBM 71 and egress managers (EgM) 76, page 8, paragraph 0117]**, *forwarding the data traffic to one or more of the respective plurality of logical egress network ports* **[one egress manager 76 is assigned to each egress port of egress submodule 16 of EPIC 20, page 17, paragraph 0214; and the egress manager 76 uses the COS manager 133 and the scheduler 134 to provide policy based QOS, page 18, paragraph 0215]** *based on the parameter* **[egress manager 76 gets the CPID and assigns it to the transaction FIFO 132 where the COS manager 133 and the scheduler 134 work together to output packets based on QOS, pages 17-18, paragraph 0215]**.

4. With regard to claim 23, Ambe et al. discloses 23 a node of a communications network **[Fig. 2, Network switch-on-chip (SOC) 10, Ethernet Port Interface Controller (EPIC) 20]**, comprising:

an ingress interface **[Fig. 8, ingress submodule 14a]** adapted to assign a parameter **[8 bytes of control information are added to the 64 bytes of cell byte data, page 8, paragraph 0118; *see also* Fig. 11; for example, the Cell Packet Identification (CPID) is provided to the egress manager 76, page 8, paragraph 0119]** respecting data traffic received over the network;

an egress interface *having a respective plurality of logical egress network ports* **[Fig. 2, interpreted by examiner as the combination of the PMMU 70 and egress submodule 16a**

where PMMU 70 comprises CBM 71 and egress managers (EgM) 76, page 8, paragraph 0117; EPIC 20 supports at least 8 ports, page 4, paragraph 0048] *the egress interface being* adapted to process the data traffic **[one egress manager 76 is assigned to each egress port of egress submodule 16 of EPIC 20, page 17, paragraph 0214; and the egress manager 76 uses the COS manager 133 and the scheduler 134 to provide policy based QOS, page 18, paragraph 0215]** using the parameter **[egress manager 76 gets the CPID and assigns it to the transaction FIFO 132 where the COS manager 133 and the scheduler 134 work together to output packets based on QOS, pages 17-18, paragraph 0215]**; and

means for conveying the data traffic and the respective parameter across the node between the ingress interface and the egress interface **[Fig. 2, through CPS channel 80, page 3, paragraph 0047]**.

5. With regard to claim 54, Ambe et al. discloses an egress interface and software program of a network node **[Fig. 2, interpreted by examiner as the combination of the PMMU 70 and egress submodule 16a where PMMU 70 comprises CBM 71 and egress managers (EgM) 76, page 8, paragraph 0117]**, the egress interface and the computer program being adapted to send outbound data traffic over a communications network, and comprising:

means for receiving data traffic and a respective parameter from an ingress interface of the node **[Fig. 2, through CPS channel 80, page 3, paragraph 0047]**;

a plurality of logical egress network ports coupled to the communications network **[EPIC 20 supports at least 8 ports, page 4, paragraph 0048]**;

means for *forwarding* the data traffic *to a selected one or more of the plurality of logical egress network ports* **[one egress manager 76 is assigned to each egress port of egress submodule 16 of EPIC 20, page 17, paragraph 0214; and the egress manager 76 uses the COS manager 133 and the scheduler 134 to provide policy based QOS, page 18, paragraph 0215]** using the respective parameter **[egress manager 76 gets the CPID and assigns it to the transaction FIFO 132 where the COS manager 133 and the scheduler 134 work together to output packets based on QOS, pages 17-18, paragraph 0215]**.

6. With respect to claims 2 and 24, Ambe et al. discloses that the parameter comprises:

any one or more of information identifying the ingress interface **[the ingress submodule 14a determines the source MAC address, page 11, paragraph 0158; *see also* page 10, paragraph 0130, MAC Address is used in the ARL table 21 lookup]**;

information identifying quality service (QoS) data traffic received by the ingress port **[ARL/L3 table 21 lookup includes a Class of Service based on Source Address (CosSrc) field, page 10, paragraph 0138]**;

information identifying a Diffserv CodePoint (DSCP) of data traffic received by the ingress port **[Fig. 14, FFP 141 uses filters/masks and can identify and tag IP TOS fields (which are, by definition, Differentiated Services, col. 12, paragraphs 0163-0164; *see also* FFFP which reads and re-marks the DiffServe Code Point (DSCP), page 20, paragraph 0232]**; and

information identifying a source address of data traffic received by the ingress port **[ingress submodule 14a reads the source and destination IP address, page 11, paragraph 0160]**.

7. With respect to claims 3 and 25, Ambe et al. discloses that assigning a parameter **[8 bytes of control information are added to the 64 bytes of cell byte data, page 8, paragraph 0118]** comprises a step of evaluating the data traffic to derive a value for the parameter **[the ingress submodule 14a performs masking through FFP 141 and then FFP 141 performs packet classification based on protocol fields in the packets, page 11, paragraph 0161; for example, tag insertion, priority mapping, TOS tag insertion, page 12, paragraph 0163]**.

8. With respect to claims 4 and 26, Ambe et al. discloses that the step of evaluating the data traffic comprises a step of assigning a default value of the parameter **[for untagged packets (without an 802.1p priority field), SOC 10 can assign an appropriate (802.1p) class of service priority field, page 12, paragraphs 0162 and 0164-0166]**.

9. With respect to claims 5 and 27, Ambe et al. discloses

evaluating one more layer-specific headers **[packet header or IP header, page 12, paragraph 0166]** of the data traffic **[FFP 141 can evaluate several different layers, page 11, paragraph 0161]**; and

modifying the default value parameter based on the evaluation result **[an equivalent weighted priority (e.g., local MAC address or an out-of-network IP address) is used to**

assign the default (802.1p) class of service priority field based on table lookup, page 12, paragraph 0162].

10. With respect to claims 6 and 28, Ambe et al. discloses that the parameter is a normalized parameter value obtained successively evaluating **[weighting, page 12, paragraph 0162]** each one of the one or more layer-specific headers **[packet header or IP header, page 12, paragraph 0166]** in turn, and modifying the parameter value based each successive evaluation result **[weights are based on Source COS values in the ARL table based on either the source or destination addresses of the packet, page 12, paragraph 12; wherein the ARL engine 143 performs the MAC address lookup in the ARL table and the source MAC address is 'learned' and the ARL table is subsequently updated, page 11, paragraph 0159; *see also* the discussion of how the COS manager 133 performs weighted priority scheduling (although done in the egress submodule), page 18, paragraph 0216]**.

11. With respect to claims 7 and 29, Ambe et al. discloses that conveying the data traffic and the respective parameter comprises the steps of: inserting the parameter into an intra-switch header; and appending the intra-switch header to the data traffic **[8 bytes of control information are added to the 64 bytes of cell byte data, page 8, paragraph 0118]**.

12. With respect to claims 8 and 30 Ambe et al. discloses stripping the intra-switch header from the data traffic **[inherently, the 8 bytes of control information added to the 64 byte cell data**

are removed before transmission through the egress submodule; moreover, the cells are reassembled for proper communication, page 18, paragraph 0222].

13. With respect to claims 9 and 31, Ambe et al. discloses conveying the data traffic through multicast-capable switch fabric **[Fig. 11, line 0, of the 8 bytes of control information includes the number of egress ports for multicasting, page 8, paragraph 0118]**.

14. With regard to claims 10 and 32, Ambe et al. discloses that the data traffic and the respective parameter are replicated by the switch fabric **[Fig. 2, through CPS channel 80, page 3, paragraph 0047]** to one or more egress interfaces of the node **[each of the egress managers 76 get the multicast packet to which the multicast packet is directed to, page 17, paragraph 0214]**.

15. With regard to claims 11, 33, 36, 55, and 75, Ambe et al. discloses that *forwarding* data traffic in the egress interface *further* comprises *either* one or *both* of:

implementing a traffic policing function **[FFP 141 uses a rules engine to forward the packet to egress port, page 12, paragraph 0163; drop the packet, *see Id.*; or change the type of service (TOS) precedence, which is, by definition, the DiffServe Code Point (DSCP), pages 11-12, paragraph 0161]**; and

applying a predetermined policy **[video packets are picked ahead of text packets, page 18, paragraph 0215]**.

16. With regard to claims 12, 34, and 56, Ambe et al. discloses that the traffic policing function comprises:

detecting congestion of the egress interface **[congestion is detected at the COS output queues, page 16, paragraph 0209]**; and

discarding low-priority traffic such that the congestion is reduced **[packet discard is performed, *see Id*; for COS FIFO queues, high-priority traffic such as video are given higher priority bandwidth, page 17, paragraph 0216; with lower bandwidth assigned to lower-priority traffic, it is inherent tat higher priority traffic would be forwarded first. Thus, the lower priority traffic would remain in lower-priority COS FIFO queue, and the be discarded as aged, page 18, paragraph 0221]**.

17. With regard to claims 13, 37, 57, and 76, Ambe et al. discloses that the policy is defined in respect of the egress interface **[one egress manager 76 is assigned to each egress port of egress submodule 16 of EPIC 20, page 17, paragraph 0214, and the egress manager 76 uses the COS manager 133 and the scheduler 134 to provide policy based QOS, page 18, paragraph 0215]**.

18. With regard to claims 14, 38, 58, and 77, Ambe et al. discloses that the policy is defined in respect an egress network port associated with egress interface **[one egress manager 76 is assigned to each egress port of egress submodule 16 of EPIC 20, page 17, paragraph 0214, and the egress manager 76 uses the COS manager 133 and the scheduler 134 to provide policy based QOS, page 18, paragraph 0215]**.

19. With regard to claim 15-17, 39-41, 59-61, and 78-80, Ambe et al. discloses that the policy comprises any one or more of: PASS; DROP; and TRANSLATE **[FFP 141 uses a rules engine to forward the packet to egress port (PASS), drop the packet (DROP), page 12, paragraph 0163; or changing the type of service (TOS) precedence (TRANSLATE), which is, by definition, the DiffServe Code Point (DSCP), pages 11-12, paragraph 0161]**.

20. With regard to claims 18, 42, 62, and 81, Ambe et al. discloses that the TRANSLATE policy is adapted to modify one or more of a VLAN ID of the data traffic **[*see generally*, the FFFP can change the VLAN ID, page 20, paragraph 0232]**; a QOS parameter of the data traffic **[changing the COS priority of an untagged packet based on weighted priority which depends from the source and destination addresses, pages 11-12, paragraphs 0161-0162]**; and Diffserv codepoint of the data traffic **[changing the type of service (TOS) precedence (TRANSLATE), which is, by definition, DiffServe Code Point (DSCP), pages 11-12, paragraph 0161]**.

21. With regard to claims 19, 43, 63, and 82, Ambe et al. discloses that applying the TRANSLATE policy comprises the steps of:

querying a translation table **[Fig. 2, Rules Table 22, page 12, paragraph 0163]**; and

inserting the query result into the data traffic **[changing the TOS precedence in an IP packet, *see Id.; see also* page 12, paragraph 0164]**.

22. With regard to claims 20, 44, 64, and 83, Ambe et al. discloses that the translation table comprises, for each parameter value, information identifying any one or more of: the VLAN ID; the QOS parameter **[changing the COS priority of an untagged packet based on weighted priority which depends from the source and destination addresses, pages 11-12, paragraphs 0161-0162*; see also* page 12, paragraph 0164]**; and the Diffserv codepoint **[changing the type of service (TOS) precedence, which is, by definition, DiffServe Code Point (DSCP), pages 11-12, paragraph 0161]**.

23. With regard to claims 21, 45, 65, and 84, Ambe et al. discloses that the translation table is specific to the egress interface **[the filters of FFP 141, one in each egress manager 76, are defined by rules table 22, page 12, paragraph 0163]**.

24. With regard to claims 22, 46, 66, and 85, Ambe et al. discloses that the translation table is specific to logical egress *network* port **[one egress manager 76 is assigned to each egress port of egress submodule 16 of EPIC 20, page 17, paragraph 0214]** of the egress interface **[Figs. 14-15, the filters of FFP 141, one in each egress manager 76, are defined by rules table 22, page 12, paragraph 0163]**.

Response to Arguments

25. Applicant's arguments filed April 5, 2005 have been fully considered but they are not persuasive.

26. Applicant argues that, in Ambe et al., all *incoming* processing occurs in ingress submodule 14 except for dynamic memory allocation and specific cell pathfinding **[Applicant's Amendment of April 5, 2005, page 14, paragraph 3 and, again, in paragraph 4]**. Applicant states that once the cells find the correct port of EPIC 20, they are received at the egress submodule 16, reassembled, and passed to the correct destination port **[Applicant's Amendment of April 5, 2005, page 14, paragraph 4]**. Applicant further states that all replication of cells in Ambe et al. *necessarily* occurs in the ingress module 14 **[Applicant's Amendment of April 5, 2005, page 15, paragraph 2]**. Thus, Applicant argues that cell addressing and replication is NOT divided between Ambe et al.'s ingress and egress submodules **[Applicant's Amendment of April 5, 2005, page 15, paragraph 3]**.

27. First, In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies **(that addressing and replication is divided between the ingress and egress interfaces)** are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

28. Moreover, Applicants argue that the "egress interface" of Ambe et al. does not perform the claimed limitation of forwarding traffic to "one more of the respective logical egress ports." **[Applicant's Amendment of April 5, 2005, page 15, paragraph 3]** However, as explained in

the independent claim 1 above, the examiner interprets the egress interface as the combination of PMMU 70 and egress submodule 16 where PMMU 70 comprises CBM 71 and egress managers (EgM) 76 **[see Ambe et al., Fig. 2; page 8, paragraph 0117]**. Thus, the examiner-interpreted egress interface uses the egress managers (EgM) 76 (one EgM 76 assigned to each output port) to schedule packet output based on policy-based QOS **[see Ambe et al., pages 17-18, paragraph 0215]** wherein each examiner-interpreted egress interface forwards traffic to one or more ports via each EgM 76 assigned to each output port.

29. Furthermore, Applicants argue that the claimed egress interface is capable of replicating cells/packets, as needed, in order to route the cells to the required logical egress ports **[Applicant's Amendment of April 5, 2005, page 15, paragraph 3]**. However, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (replicating cells in the egress interface in order to route the logical egress ports) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Moreover, Ambe et al. specifically states that CBM 71 transfers cells to CBP 50, performs packet notification to egress managers 76, manages at least two cells pointers for each egress manager 76, and specifically points to broadcast/multicast, then to the number of broadcast ports for broadcast and multicast **[see Ambe et al. page 18, paragraph 0118; *see also* paragraph 0214 which describes how a packet needs to be stored only once and that each egress manager 76 gets the CPID of the packet which needs to broadcast or multicast]**.

Conclusion

30. Accordingly, **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

31. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

32. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Mais whose telephone number is (571) 272-3138. The examiner can normally be reached on 6:00-4:30.

33. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

34. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 23, 2005

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER